SHRI SURESH KALMADI (Maharashtra): There have been such complaints that they are encroaching on the footpath also. Government must make an enquiry. How many times have we to raise this issue?

श्री कैलाशपति मिश्र : सारा मल वहां इतना भरा हुआ है। कोई वहां पर रहना संभव नहीं है, सोना संभव नहीं है, खाना संभव नहीं है और कोई वहां रहने के लिए तैयार नहीं है . . .

श्री उपसभापति : कमेटी को कार्यवाही करने के लिए भेजा है।

श्री कैलाशपति मिश्र : उपसभापति महोदय, एक महीने से कोई कार्यवाही नहीं हुई।

श्री उपसभापति : आपने दिया है, उसी समय भेजा गया है कार्यवाही करने के लिए।

श्री कैलाशपति मिश्र : ऐसी अवस्था में हम बीमार पड़े रहे। वहां कोई काम नहीं हो रहा है।

MR. DEPUTY CHAIRMAN: Calling attention now.

CALLING ATTENTION TO A MATTER OF URGENT PUBLIC IMPORTANCE: Unsatisfactory functioning of various Atomic Power Plants in the country

SHRI R. RAMAKRISHNAN (Tamil Nadu): Point of order, Sir. In this calling attention today, Mr. Kalmadi proposes to call the attention of the Prime Minister to the unsatisfactory functioning of various atomic power plants in the country particularly the Talcher, the Tuticorin and the Kota plants and the steps taken by Government in the matter. There is no atomic power plant at Tuticorin. It has been the long pending demand of the Tamil Nadu Government for location of the atomic power plant at Tarangulam in Tirunelveli, near Tuticorin.

SHRI SURESH KALMADI (Maharashtra): There is heavy water plant.

SHRI R. RAMAKRISHNAN: There is no atomic power plant at Tuticorin. How are they admitting calling attention about a non-existing power plant in Tuticorin. The only atomic energy plant is in Kalapakkam which is producing to its optimum capacity. I do not know how the calling attention has been admitted. It should be corrected either by the Secretariat or by the Ministry.

SHRI SURESH KALMADI: Sir, I call the attention of the Prime Minister to the unsatisfactory functioning of various atomic power plants in the country particularly the Talcher, the Tuticorin and the Kota plants and the steps taken by Government in the matter.

THE MINISTER OF STATE IN THE DEPARTMENTS OF SCIENCE AND TECHNOLOGY, ATOMIC ENERGY, SPACE, ELECTRONICS AND OCEAN DEVELOPMENT (SHRI SHIVRAJ V. PATIL): Sir, Four of the five atomic power reactor units are working satisfactorily. The two units of 210 MW each at Tarapur have completed over 14 years of commercial operation achieving a life time capality factor of 50 per cent and were supplying electricity to the grid for 70 per cent of the total time.

Unit-I of Rajasthan Atomic Power Station has not been working since March 4, 1982 due to a light water leakage in one of its end-shields. However, all efforts are being made to bring the unit back on line as early as possible. Unit-II of Rajasthan Atomic Power Station is operating satisfactorily. During the year 1983-84, it has generated 1190 million

(Shri Shivraj V. Patil)

units achieving a capacity factor of about 62 per cent and an availability factor of about 86 per cent. In the current financial year upto end July the capacity factor and availability factor are about 64 per cent and 85 per cent respectively.

Unit-I of Madras Atomic Power Station was synchronised to the grid on July 23, 1983 and was declared commercial on January 27, 1984. It is operating steadily at power levels between 200—235-MWs. It has generated 701 million units till end of July, 1984. The capacity factor for the current financial year upto end July, 1984 is about 73 per cent and availability factor for the same period is about 83 per cent.

Heavy Water Plants at Tuticorin, Talcher and Kota

The Tuticorin Heavy Water Plant which used to have frequent interruptions in its operation due to various internal and external constraints has, of late, after incorporating remedial measures, shown a significant improvement in its performance both in respect of its availability as well as the levels of operation. The plant has operated continuously for nearly five months and on many occasions exceeded its targeted production.

The Kota Heavy Water Plant is in an advanced stage of commissioning. It is being commissioned in a phased manner. With part of the plant under commissioning trials, the plant has demonstrated operational capability over an extended period and also the feasibility of attaining a production level that could be expected under the operating conditions maintained during trials. Preparations for extending the trials to all the sections of the plant are going on.

The Talcher Heavy Water Plant which is under commissioning has not been tested on a continuous basis for any significant length of time, due to non-availability of synthesis gas on a continuous basis, on account of long and frequent power cuts imposed by the State Electricity Boards, as well as some internal problems in the fertilizer unit. However, during the limited trials, they have been carried out, certain defects and limitations have been found out in this plant. While for a few of them remedial measures have already been incorporated the others are still to be completed. The efficacy of the modifications carried out will be established when synthesis gas from the fertilizer unit will be available. The plant is scheduled to be started in August, 1984 and during this trial run, the performance of the Plant is expected to be established.

It may thus be seen that the various atomic and heavy water plants in the country have been functioning satisfactorily.

SHRI SURESH KALMADI: Mr. Deputy Chairman, Sir, this Ministry is under the direct charge of the Prime Minister and it would have been good if she was here because she has been associated with this Ministry for the past over 20 years. Whatever credit is there, if at all it is there, she should take it and if there has been bungling also, then, she is to blame. That is very evident.

I start my Calling Attention with a date, May 18, 1974, which is the date of the Pokharan blast in Rajasthan. It was met with loud acclaim, in many circles, but this is the one single factor which has put the clock back as far as the development of India's nuclear capability and energy programme is concerned. When we went ahead with the blast, we probably thought, that we had created the infrastructure. We probably thought, raw materials, which was not the case, as it has turned out after the blast. We know in the last 10 years what other side effects of the blast are, how our own atomic energy progamme has gone haywire. I would, through this Calling Attention, like the nation to know *vis-a-vis* func-

tioning of our nuclear power stations as well as heavy water produced. In 1970 the Atomic Energy Commission had rather envisaged 2700 mw of nuclear power capacity to be produced in this country till 1980. Till today, leave aside 2700 mw or anywhere near, we have been able to produce only 800 mw of nuclear power in the country and this is due to the Pokharan blast. If the blast had not taken place, our nuclear development for peaceful purposes for thermal purposes would have been as per schedule and 2700 mw could have been produced.

Now the hon. chairman of the Atomic Energy Commission, Dr. Raja Raman has come out with a 10,000 mw plan by the turn of the century at a cost of Rs. 8000 crores by which time 10 per cent of all the power sources available in the country will be nuclear itself. That is the plan of the Department of Atomic Energy, but, Sir, do not know whether they are going to achieve it. If they are not going to learn by their past performance, miracle only can achieve this particular target of the D. A. E.

Then, Sir, we know today that in the world 10 per cent of all power sources is from atomic energy, where as in this country it is only 2.5 per cent electricity generated through nuclear energy. Even in Pakistan the nuclear energy is 5.5 per cent. Again I blame this on the Pokharan blast.

Sir, over Rs. 400 crores have been invested in the Kota plant, in the Tuticurin plant, in the Baroda plant and in the Talcher plant. We are also today importing about Rs. 90 crore worth of heavy water. And how much are we producing in these plants? After spending a capital cost of Rs. 400 crores on these four plants we are developing heavy water to the tune of only Rs. 4 crores. Rs. 400 crores investment, Rs. 4 crore heavy water we are producing and they are even importing worth Rs. 90 crores from abroad. This is the heavy water scene for you and it is costing the taxpayer very heavily on its pocket.

Now we come to the Talcher plant in Orissa. 12 years was erection time and for the last three years it has been declare 'mechanically complete'. This Rs. 66 crores plant, unfortunately, has been declared unviable—whether the Government agrees with it or not. The Minister has given a very very rosy picture of the atomic power plant situation in the country. He has not purposefully shown the darker side which I want to expose today. Sir, this plant has failed to produce even a single drop of heavy water till today. The unworkable design as also much of the defective critical equipment was supplied by a West German firm, called 'Unde'. Unde has no experience at all before the commissioning of the Talcher plant and all the existing design problem or the equipment problem is directly the result of their inexperience, but the agreement signed between the Department of Atomic Energy and Unde gave an acceptance certificate to Unde on July 1 last year. The agreement said: "On the deemed fulfilment of guarantees although the test run could not be carried out." So, completion certificate was given in spite of the test run having been carried out in the plant. And this particular company is not obligated to prove the plant at all and their contract expires on 1st of October, 1984, just two months from now. And they have not done a thing and have walked away with the pay packet. We are going to be left holding this sick baby.

Now we have four options for the Talcher plant. One, whether we can modify the entire process; two, whether we can do it on our own starting from a scratch; three, to move the entire plant next to a naphtha fertiliser plant, which will mean enormous cost; and four, whether we should scrap the plant altogether. Sir, according to the Talcher engi-

[Shri Suresh Kalmadi]

neers, the best solution would be scrapping of this plant altogeher. Of course, this will involve loss of face by the Department of Atomic Energy. So I do not know whether they are going to go in for this choice, or come up with some hoodwinking programme. I would like to ask the hon. Minister whether it is a fact that Unde company is going to leave in another two months without fulfilling its contract and obligations in India, whether they have made such an agreement which has such a big loophole and whether the Department of Atomic Energy has asked for another Rs. 20 crores for making various modifications and they have not given any details of the modifications.

Now I come to the Kota plant which has been bogged down by serious waste disposal problem created by a massive accumulation of toxic chemicals produced in the generation of hydrogen sulphide gas which have crippled the Kota Heavy Water Plant. And of course, the problem has been accentuated because of the erratic supply of steam and power from the Rajasthan Atomic Power Plant, to which it is tied. The capacity of Kota Plant is 100 tonnes, but in 1983-84 we have been able to have an output of only 5.2 tonnes, which is pathetic, to say the least. Fourteen years after the project was launched, it is still not fully commissioned. It should have been commissioned by 1976. And the cost has gone up from Rs. 19.5 crores to Rs. 100 crores. Only one pair of hot and cold exchanger tower, out of three, is functioning and the Government says, the story of the Kota Plant is a success story.

Now coming to the Tuticorin and Baroda plants, six years after the Department of Atomic Energy started the Tuticorin plant and four years after the Baroda plant went into stream following five major break downs, the two units are yet to be stabilized. The problem is of basic character relating to design and major equipment failure and the capacity utilization of these two plants is only one-fifth of their capacity.

So, Sir, we have seen, after the statement of the Minister and after mechanical completion of those plants, that—Kota plant is working at 5 per cent of its capacity; Baroda plant is working at 10 per cent of its capacity; Tuticorin plant is working at 20 per cent of its capacity; and Talcher plant is working at 0 per cent capacity. And yet the Government and the DAE feel that the whole story is a success story. And in spite of this total bungling.... (*Time bell*). Sir, I have just taken five minutes.

MR. DEPUTY CHAIRMAN: No, ten minutes are over.

SHRI SURESH KALMADI: I started at 12-10. Please give me another five minutes.

MR. DEPUTY CHAIRMAN: Please conclude now.

SHRI SURESH KALMADI: One minute, Sir. The Minister is now going in for the Manuguru plant in Andhra Pradesh and a 110 tonne capacity plant at Thal-Vaishet, which is estimated to cost 188 crores of rupees. I do not know if we have given requisite experience. You have given the Thal plant to Rashtriya Chemical Fertilisers which has never worked on a nuclear plant. The DAE does not have a design for this plant and even the various committees have gone into this question. The Fareeduddin Committee set up in 1980 by DAE to choose an appropriate process and technology for new heavy water plants in the country says that design and engineering are not available here and hence it is better to go in for foreign collaboration. If we go on our own steam, project will be delayed by many years. Sir, the

atomic power stations too have the same story. The Madras power plant should have been commissioned in 1973 but it has just been started in 1983. The Madras power plant No. 2 which should have been commissioned in 1976 is going to be commissioned in 1985. The Narora plant which should have been commissioned in 1981 will be commissioned, hopefully, by 1987. And the Kakrapar plant which should be ready in 1991, God alone knows when that will be ready. Also, see the cost escalation. The Rajasthan atomic power plant should have been commissioned at a cost of Rs. 34 crores but it has cost Rs. 73 crores. The Rajasthan atomic power plant No. 2 which should have been commissioned at a cost of Rs. 58 crores is being commissioned at a cost of Rs. 103 crores. The Madras atomic power plant No. 1 which should have been commissioned at a cost of Rs. 62 crores has been commissioned at a cost of Rs. 180 crores. And the Madras atomic power plant No. 2 which should have been commissioned at Rs. 71 crores is being commissioned at a cost of Rs. 200 crores. So, this is what the poor tax payer is paying for the success story!

Sir, I now come to the Tarapur spares. Due to the bomb blast, the United States had cut off all supplies and we have been getting certain spares from a West German company called KWU which is our consultant and also supplying, under an agreement, certain spares to the Atomic Energy Commission. Sir, you must be knowing that last week there was a news report in "The Hindu" which said that West Germany has decided to postpone giving these spares which are required for this country. I want to know from the Minister whether it is a fact that West Germany has stopped sending the spares to us and whether this is going to affect the safety of the Tarapur plant. (*Time bell rings*) I will take two minutes more, Sir.

I now come to the problem of nuclear waste. Sir, you know that in the various plants there is nuclear waste and what to do with the nuclear waste, where to bury it has always been a big question. I think they have chosen a site at Kolar and, if so, I want to now what precautions have been taken. You know that this nuclear waste is radio active; it can come back to the ground and in the form of milk and other animal foods it can affect human beings; it is a big health hazard. What steps are being taken by the Government as regards Kolar? (*Time bell rings*). Sir, I am coming to the last part of my question. Let me complete.

MR. DEPUTY CHAIRMAN: Leave something for others also.

SHRI SURESH KALMADI: The main thing which I wanted to say today is about the thing which I started with. The downfall of our atomic projects programme was primarily due to the Pokharan blast. The bomb cost us immensely and, because of this, nuclear power generation was drastically reduced because all our sources were blocked. Otherwise we would have had a great infrastructure by now. We are too poor a country to afford to detonate nuclear devices. Pakistan too is another poor country which is now trying to compete with India. Wou are aware of the statement of Dr. Abdul Qadar, who is supposed to be the father of Pakistan's Nuclear Department. He has said that now Pakistan is in a position to have enriched uranium which, I thin, is a step towards a nuclear bomb. Sir, battles are fought finally in the conventional manner in the battle-field but in case there ever is a nuclear, it becomes an international war. It does not remain confined only to India and Pakistan. So, it is very essential that Government must take immediate steps to remove doubts from the mind of Pakistan that we are producing a nuclear bomb and say that we are using this nuclear energy for power generation only. Also I would like to ask the

(Shri Suresh Kalmadi)

Government, since they always say that we are for peaceful use of atomic energy, why not we be open to inspection by the International Atomic Energy Commission? Because we have nothing to hide, let them come and see. This has to be bilateral Pakistan and India have to agree. And will Government take the initiative in this regard to see that both the countries agree to the International Atomic Energy Commission people coming and watching our infrastructure? We are a very poor country and we cannot waste money even in producing a bomb. Now all our life-lines are cut off. Heavy water is cut off, critical equipment is cut off from many foreign countries because people suspect us. We ourselves are saying that it is for peaceful purposes. Sir, if we have to achieve by 2000 what we want, so far as electricity is concerned, the plan which the Department of Atomic Energy has in mind, of 1,900 MW by the year 2000, it can only be achieved if we go in for international inspection and we get in a lot of things from outside. Otherwise, Sir, the story of the Department of Atomic Energy for the next 10 years is going to be worse than for the previous 10 years.

That is all.

MR. DEPUTY CHAIRMAN: It is his personal view. I do not know if it is his party's view also.

श्री सत्यपाल मलिक (उत्तर प्रदेश): मैं माननीय सदस्य से जानना चाहता हूं कि क्या यह आपकी पार्टी की नीति है कि पाकिस्तान और दूसरे देशों को हम अपने आणविक संयंत्र दिखाएं। मैं इसके विरोध में अपना प्रोटेस्ट रजिस्टर करता हूं यह बात राष्ट्रीय हितों के बिल्कुल विपरीत है।

SHRI SURESH KALMADI: Sir, the people of the sub-continent are in favour of atomic energy for peaceful purposes.

श्री सत्यपाल मलिक: अमरिका और चान दोनों पाकिस्तान को मदद कर रहे है और पाकिस्तान बना रहा है।

SHRI SURESH KALMADI: People of the country are not in favour of going atomic, and we have to prevent this. This is going on in many countries of the world. Many countries of the world are for international inspection. Sir, we have to be bold in this affair. We have to come out with a pragmatic thing that primarily it will be for peaceful purposes.

MR. DEPUTY CHAIRMAN: Why are you wasting time? You have taken 20 minutes and still you are not satisfied.

SHRI KALYAN ROY (West Bengal): We are against any nuclear inspection arrangement. That should be recorded.

DR. SHANTI G. PATEL (Maharashtra): Sir, the spokesman in charge of atomic energy development has been telling us and forecasting that by the year 2000 we shall be generating electricity to the extent of 10,000 MW through the atomic power stations. Even it is being suggested that this could be raised to 25,000 MW and that this should be achieved by the end of the 20th century. Sir, as everyone of us is aware, atomic power generation requires very heavy financial outlays. Not merely that. It requires very modern, upto-date technology. That is why we have to see that our power plants, atomic power plants, function effectively, efficiently from different angles. I would like to view the functioning to be satisfactory or unsatisfactory from three angles. One, of course, is the power generation itself. The second is the financial angle. And the third is the safety measures that have been taken. Sir, yet from these three angles, I am

sorry to say, our record is not satisfactory. Rather, it is unsatisfactory.

Coming to the first part, my predecessor has already explained in details as to the situation which exists in various power generating plants as well as the heavy water plants. Sir, it has been stated in the press reports—and they are fairly reliable—that as far as the first unit of Rajasthan Atomic Power Plant is concerned, there have been 251 break-downs in nine years' operation. The second unit has also given troubles. It has yet to attain efficiency, through claim has been made during the last few months that some efficiency has bene achieved. But the first unit has been closed down since 1982 and still it has not been able to function. Whatever the technological defects may be, I am not concerned with that. The fact does remain, and it is admitted in the statement of the Minister regarding heavy water plants and Tarapur plant. It gives a very sorry tale regarding their performance. I need not go into the details. Sir, the Minister himself had admitted in an answer in the Lok Sabha, Question No. 2832, in the month of August 1983, that there have been 92 outrages, 87 due to equipment itself and five only due to human error. This is an admitted fact which is recorded in the proceedings. Sir, during the period from 1980 to 1983 our generation has been to the extent of 25 to 42 per cent. This is the sorrowful part of the whole affair.

Sir, while coming to the hazards part, only recently, last year, there was a terrific scare because of certain radioactivity from the Tarapur Plant. The matter was raised before the Consultative Committee. Of course, the Minister did assure that steps were being taken and that nothing serious would happen. But, Sir, what are the regular checks, what are the measures, that are being taken? Is there any authority to prescribe these measures besides the Department itself? It is only the Department of Atomic Energy itself, in charge of generating power, setting up plants etc., which also prescribe the safety measures that are to be taken. It is a very strange affair. It should be in the hands of some independent authority which should do so. Sir, even last year in one of the most advanced countries in respect of technology and power generation, like the United States, there was the Three Mile Island accident which created a lot of scare. There is an independent agency which has prescribed several measures, sometimes so expensive that some of the atomic energy plants under construction had to be abandoned. Sir, this is an aspect to which so much attention has to be paid if we are to think of human beings.

Sir, regarding the heavy water plants, my friend has already given the details. I do not want to go into all those details again. But the fact which is staring in the face is that they are not functioning properly. The heavy water which is required for power generation process, is not readily available, and these plants, as also even admitted by the Minister himself, are not functioning properly.

Sir, in this connection, a committee was appointed, and it has given its report, the Prasad Committee Report. I ask: For what reasons is this Report being withheld even from the House? This Report should be published so that the public at large should know what is going on in the atomic power plants, what is wrong with them, what the remedial measures could be taken. Why is the Government shy of publishing this particular Report?

SHRI SURESH KALMADI: It has been published in the newspapers.

DR. SHANTI G. PATEL (Maharashtra): It was unauthorisedly published. There should be an official publication of the Report. It should be discussed on the floor of the House, and the House can be taken into confidence on what proper measures should be taken.

[Dr. Shanti G. Patel]

As far as the construction aspect is concerned, it is again the same sad story. To give you only one example, the plant which was opened in Madras by the Prime Minister herself, for this project, the sanction was given in the year 1967, and the first unit came into operation at the cost of Rs. 118 crores, rising from Rs. 62 crores, somewhere in July, 1983. Still it has to work to full capacity. It has taken over 16 years. I do not know how many more years it would take. So, the unit cost of electricity is rising, and the poor consumer or the industry is required to pay.

Sir, the inefficiency of these power plants is also affecting the industrial plants at various places. And this should be set right.

Sir, the root cause in my opinion, is the Atomic Energy Act which gives certain powers, privileges, to the persons who are in charge of these, that certain secrecy could be maintained, and this is what is coming in the way. There is no accountability worth its name. Sir, what needs to be done, if the things have to be set right, is to have accountability as we have in respect of other spheres and activities. So, the Atomic Energy Act needs to be modified, to be amended, so that proper accountability can be given, and the House, the Parliament has an ample opportunity to look at the functioning of this particular power-generation sector.

Sir, lastly, I would like to ask the Minister certain questions:

First, what steps are being taken to see that construction and commissioning period is adhered to and that no delays are allowed?

Sir, it has been stated that there have been a lot of defects in the equipment. What steps are being taken to see that the equipment is up to the standard.

Thirdly, Sir, have we attained self-sufficiency and uptodateness in technology because if a plant or a process works, that does not mean that we have attained 100 per cent self-sufficiency? I would like to know to what extent we have attained self-sufficiency. Fourthly, what steps the Government would take so that proper accountability is established and the functioning of this Department is gone into in detail by a Parliamentary Committee.

MR. DEPUTY CHAIRMAN: Mr Jaswant Singh.

SHRI JASWANT SINGH (Rajasthan): Mr. Deputy Chairman, Sir, I would like to state at the outset that there are two aspects of this particular Calling Attention—the power aspect and the heavy water aspect. On both these aspects there is basic sympathy in the country about the endeavour and about the exploration of new frontiers of technology. Therefore, whatever I have to say has to be examined in the light of this basic Sympathy existing in the country whatever response the Hon'ble Minister comes up with are, therefore, not to be evasive—but if possible should be educative—and if possible, informative. Sir, we are talking of post Tarapur phase because Tarapur represents a certain stage in India's endeavour towards an independent self-reliant ability. This in turn, relates to three phases, if I may so classify them. There was the Bhabha phase which laid down the basic fundamental about the country's nuclear endeavour. Then we had the Sarabhai phase which met with difficulties and which coincided with the problems that the country faced in importing the essential technology. Therefore necessarily there have to be big changes in our programme—and the current phase, Sir, has two components—the 10.000 M.W. power to be achieved by 2000 A.D. and the continuing of the heavy water programme which is absolutely vital for us. The question is not however, limited to our examining, in today's

Calling Attention debate, to the power component only. As regards the heavy water component various queries arise. Before those queries are raised, I would like to say that in our nuclear programme there are three unquestionables. The first unquestionable assertion that I would like to make is that these plants have been less than successful. Secondly, there have been grave slippages, mechanical and financial in their commissioning schedule. Thirdly, there is a need to examine into these slippages both machanical and commercial, within the ambit of a basic sympathy for the endeavour. Now, it does not suffice, therefore, Sir, that the Government or the Department of Atomic Anergy, which is headed by an eminent Indian scientist for whom the country has a respect and, therefore, it does not suffice when we come up with our queries because we do not have access to the information which naturally the Department of Atomic Energy has, therefore when we come up with these queries, it must be understood that they are not motivated by any desire which can possibly be classified as anti-national. I am disappointed that when these series of articles by a young journalist came up—that has what prompted my hon. colleague to raise this discussion in the House a very aminent scientist who heads this organisation was persuaded to call that young journalist's endeavour as anti-national. I had occasion to mention this to the Hon'ble Deputy Minister who looks after DAE, that this does not reduce our respect for the scientific ability of the gentleman, concerned but it does fall into a pattern which appears to be the standard response of the Treasury Benches whenever any awkward criticism or awkward questioning comes up. Therefore, I would like to reiterate, Sir, that amongst these three unquestionables, the third and the most important which has motivated my colleague to raise this debate is that there is a need to examine, to question and to debate the whole spectrum of India's nuclear endeavour. As I said, there are two aspects. One is the nuclear power aspect. On the nuclear power aspect, I would take a minute of your time and would like to quote, because I think that is where it is most succinctly expressed:

> "On nuclear power as one of the major components of the country's energy spectrum, there is a broad public consensus. In this country, nuclear energy options are closed because of the known and feared hazards of its development. The argument against nuclear power has been that owing to various unrectifiable acts of omission and commission, electricity generated from nuclear power may prove costlier than electricity generated by other means. Members of the Atomic Energy establishment counter this by saying that though the capital costs of nuclear power stations are twice or thrice that of a conventional coal power thermal plant, their running costs are attractively low."

Now that is quite well put. This is a reasonable query. We are attempting to work towards a 10,000 MW power capacity by A.D. 2000. A reasonable query has been raised that the capital cost of such plants is twice or thrice that of thermal plants. The per-unit cost is also, therefore, going to be much higher. These are queries which need to be debated and answered satisfactorily before the country is committed to such an ambitious programme. Because I do not have time—it is a very vast subject—I will leave the nuclear power programme at that and go on to the heavy water part of our discussion.

As far as the heavy water is concerned, we are currently examining these four plants which have been listed in the Calling Attention itself. I will take up each of these plants and very briefly put across to you as to what the difficulty is, which we as citizens and as Members of this House find in accepting the Government's stand.

[Shri Jaswant Singh]

Sir, with regard to Talcher, in the 12 years since its erection, not a single ounce of heavy water has been produced there. The cost to the country has been Rs 66 crores. Its installed capacity was 62.7 tonnes. In money value that would have meant about Rs. 2½ crores per month. Now I would not repeat those facts which my hon. colleague has mentioned, but it remains that not a single ounce of heavy water has been produced at Talcher. Therefore, I have some queries related specifically to Talcher. Sir, Talcher was put up in collaboration with a German company, a firm of chemical engineers called UHDE. I would like to know: before UHDE was asked to collaborate with us, was any examination carried out of their antecedents? Had UHDE put up any heavy water plant anywhere in the world before they did so in India? Following from that is another question. Here I would not go too much into the technicalities of it. Talcher uses the thermal ammonia hydrogen exchange. Had this thermal ammonia hydrogen exchange been tried anywhere in the world? Now it is a well known fact that the UHDE contract expires in October this year, in about two or three months time. In that light, I would like to ask, is it correct that the Talcher plant managers have repeatedly told the DAE, Heavy Water Projects Division that the plant cannot be commissioned without major modifications? Sir, about Talcher itself, a lot of people have described it as perhaps the single greatest industrial disaster that the country has faced I say this because you must admit it. If it has been a failure, I don't think it is reflective of any kind of value judgement, so the Government or the Department of Atomic Energy ought to come up and admit: it has failed. It has failed for a, b, c, or x, y, z reason, and, that, this has been a mistake which the country has had to face with in its endeavour to achieve new frontiers of technology. Is it correct that Talcher's original estimated cost was Rs. 21 crores, that it was to be commissioned by September 1975, that its current estimated cost is Rs. 66.18 crores, that UHDE's collaboration agreement expires in October, and that there is no likelihood of this plant being commissioned by that date? Is it also correct—the Minister has to reply to this—that despie the existing state of Talcher the Department of Atomic Energy granted UHDE a mechanical completion certificate which is required under the collaboration agreement? They gave that mechanical completion certificate on July 1 1983. The collaborators have been given a certificate but the plant is not yet working. This worries us. Has, therefore, any responsibility been fixed? Has any investigation been carried out? It is needed. I am disappointed with the Minister's statement because it is very bland. I appreciate that the Treasury Benches would like to evade answering questions. That much of parliamentary flexibility, and licence I would grant them. But a totally bland statement which contains absoluately nothing but empty sentences is very disappointing.

I now come to Kota. In Kota I am faced with certain difficulties which are not entirely parochial in the sense that I come from Rajasthan and, that is not alone why I am querying Kota. About Kota my biggest difficulty is in attempting to understand as to where exactly we stand in respect of the various organisations that the Ministry has. Mr. A. K. Dey is chairman of the Atomic Energy Regulatory Board. This is an organisation which is part of the Ministry. Prof. Dey was quoted as saying, among various other things, that we will not compromise on safety. Prof. Dey said that "we will not compromise on safety and once we find that the leak cannot be plugged, we will shut down the plant. This is in specific reference to RAPS-I or RAPP-I, whichever

you may call it. Of course, there are steps that have been undertaken to repair the plant, and I do not want to go into various technicalities of what is causing the difficulty because the Minister too attempted a hint at it. Prof. Dey who is chairman of this Regulatory Board says that it can be due to hydrogen erosion or hydrogen atoms entering into the end Shield. Then he described the difficulties that are faced. The Department of Atomic Energy, in fact, has made a prototype copy of this plant and has attempted to rectify defects on this model. Then Prof. Dey goes to say, since the Department of Atomic Energy are the promoters of atomic energy, the Government felt the need for an external agency to look after safety considerations, and thus the Atomic energy, the Government felt the need for an external agency to look after safety considerations, and thus the Atomic Energy Regulatory Board was born. This is how the AERB comes into being. It is a welcome step. It is a longfelt need. But my specific questions arose about the functioning of the various organisations.... *(Time bell rings)* I will be brief...

MR. DEPUTY CHAIRMAN: You have taken already fifteen minutes. Please be brief and put your specific questions.

SHRI JASWANT SINGH: Does the Atomic Energy Regulatory Board have the authority to withhold commissioning a nuclear reactor or a plant if it is not satisfied with safety standards? What is the relationship between AERB and DAE? I am only asking specific questions, now that you have reminded me about the time, about Kota and Tuticorin and I am not making any assertions. About Kota, is it correct that the Exchange Section of the plant is dtsigned to produce about 15 per cent enrichment which is further enhanced to nuclear grade in the distillation unit? Is it correct that this exchange section is now producing a bare 3 to 5 per cent?

I will skip the next question because you have told me that I do not have time.

Is it correct that the current estimate of Kota plant is Rs. 71.61 crores or 368 per cent higher than the original budget? Is it also correct that just the foreign exchange component of the new cost estimate of Rs. 71.61 crores exceeds the entire original cost estimate? What is the equilibrium time for Kota plant and what is the average for other plants? Now only just two questions on Tuticorin.

SHRI SHIVRAJ V. PATIL: So many questions have been put by each of the Members. Am I expected to answer all of them?

SHRI JASWANT SINGH: The Minister is presentnig certain difficulty in answering questions. The debate requires me to ask questions. If the Minister does not choose to answer, that is for him to decide.

MR. DEPUTY CHAIRMAN: You put your questions. That is more than sufficient.

SHRI JASWANT SINGH: In the background of what I have said what disturbs me is that this 10,000 MW plan is to be based on a technology which has not yet given satisfaction. Is it correct that the future plants at Manuguru and Thal are to be based on this technology? Is it also correct that though we have sunk nearly Rs. 400 crores in these four plants, we have averaged about Rs. 4 crores annually for the last three years? If you take Nangal which is a much older plant, it produces 14 tonnes. That is outside of this question. Now, what is the cost of production? Is it correct and this is an estimate given by somebody that the cost of production of Heavy water at Thal is going to be Rs. 10,000 per Kilo and the cost of production of power at Manuguru is going to be Rs. 15,000 per Kilo.

SHRI SHIVRAJ V. PATIL: We are not producing power at Thal and Manuguru. My difficulty is that the Hon'ble Member has mixed up two things—power generating plant and heavy water generating plant. At Thal and Manuguru we are not having power generating plants. At these two places we would be producing only heavy water. The Hon'ble Member is asking me about the cost of production of power in these two places. Suppose in my reply I do not say anything about these questions then it would be said that I did not give answers to their questions.

SHRI JASWANT SINGH: Sir, this merits a clarification...

MR. DEPUTY CHAIRMAN: You go ahead. You have already taken more than 15 minutes.

SHRI JASWANT SINGH: I have kept the two things apart. Please understand that. Let me rephrase by question. At Thal and Manuguru you are setting up heavy water plants based on a technology which has not given good results and which is not satisfactory. It is estimated that the per kilo cost of heavy water at Thal is going to be Rs. 10,000 and at Manuguru Rs. 15,000. This will add Re. 1 per unit of power over and above the commercial cost of production. I keep the two things distinctly apart. The question is about economics of nuclear power. I have not asked anything in a hazy cloud. Thank you. Only thing is you were a little bit impatient.

MR. DEPUTY CHAIRMAN: This remark is not fair. You have already taken over 15 minutes. At this rate Calling Attention will go on for flours. Yes, Mr. Hukmdeo Narayan Yadav. (*Interruptions*). Mr. Kalmadi will never be satisfied even if he is allowed to speak whole day.

SHRI SURESH KALMADI: But you rang the bell after seven minutes.

MR. DEPUTY CHAIRMAN: Don't make such comments. It is easy to say these things from there. You come here and preside and then you will know. Yes, Mr. Yadav.

श्री हुक्मदेव नारायण यादव (बिहार): उपसभापति जी, बातें बहुत सी आ चुकी हैं और जितना कहा जा सकता था वह कहा गया, लेकिन मैं सरकार से यह जानना चाहता हूं कि माननीय सदस्यों ने जितने आरोप या अभियोग लगाये हैं या जो बातें उठायी हैं और जो असंतोष पैदा हो रहा है इन परमाणु विद्युत गृहों के निर्माण में या विद्युत के उत्पादन में या उस के प्राक्कलन में और जो प्रशासनिक या तकनीकी कठिनाइयां आती रही हैं इन सारी बातों की जांच करने के लिये क्या सरकार कोई एक उच्च स्तरीय आयोग गठित करेगी जो इन सारी बातों की जांच करे कि ऐसी कोई शक्तियां तो नहीं लगी हुई हैं जो जान बूझ कर चाहती हैं कि भारत में यह विद्युत का संकट बना रहे और उत्पादन ठीक समय पर न हो और ऐसे लोग तकनीकी या एक्सपर्ट उस में तो नहीं हैं या प्रशासन में या जो इंतजाम करने वाले हैं वे भी उन से संबंधित तो नहीं हैं ? मुझे लगता है कि कोई ऐसा सुनियोजित षड़यंत्र तो नहीं चलाया जा रहा है कि भारत में यह विद्युत संकट बना रहे और देश के उत्पादन पर इस का विपरीत असर पड़े और समय पर उत्पादन न हो । इस की जांच करने के लिये एक उच्च स्तरीय आयोग गठित किया जाय जो इन सब बातों की जांच करे और इस संकट को जल्दी से जल्दी दूर करे ।

MR. DEPUTY CHAIRMAN: Yes, Mr. Satyanarayan Reddy.

SHRI B. SATYANARAYAN REDDY (Andhra Pradesh): Sir, I only want to put three or four questions. Kindly go through the statement of the honourable Minister. Sir, the present statement of the Minister has

disappointed this House because it does not give the full information.

MR. DEPUTY CHAIRMAN: Now, please put the question. Don't make these observations.

SHRI B. SATYANARAYAN REDDY: It does not give full information about the functioning of all the atomic power plants in this country. He has not gone in depth into it.

SHRI SHIVRAJ V. PATIL: For your information, this calling attention motion itself is wrong. You have asked for information about the power plants at Talcher and at other places where atomic power stations are not in existence.

SHRI B. SATYANARAYAN REDDY: It talks about the power situation in the country in general.

MR. DEPUTY CHAIRMAN: Don't argue, Mr. Reddy.

SHRI B. SATYANARAYAN REDDY: One of the Power stations in Rajasthan has not been working since March 4, 1982 due to a light water leakage in one of its end-shields. Now, I would like to know whether it would not be better to scrap this instead of repairing it.

MR. DEPUTY CHAIRMAN: Very good suggestion.

SHRI B. SATYANARAYAN REDDY: I would like to know whether we would be getting any benefit out of it by repairing it or by scrapping it. Secondly, Sir, the second Unit of the Rajasthan Atomic Power Project which had stopped power generation in July 1983 was recommissioned recently. The second Unit produced about 150 MW of power.....

MR. DEPUTY CHAIRMAN: Mr. Reddy, you do not have any questions to ask. Now, I call Mr. Sibtey Razi. Mr. Reddy, please take your seat now.

SHRI B. SATYANARAYAN REDDY: I am putting my questions.

MR. DEPUTY CHAIRMAN: No, you have not followed it at all and you are putting unnecessary questions. (*Interruptions*). Unnecessary questions have been put and you are also repeating the same thing.

SHRI B. SATYANARAYAN REDDY: No. I am putting questions about the atomic power plants only.

MR. DEPUTY CHAIRMAN: No, Don't get up on every subject. Now, please take your seat.

SHRI B. SATYANARAYAN REDDY: I would like to know from the honourable Minister how long it will take for repairing these plants, because atomic power plants are very important to our country. Pakistan is going to produce an atomic bomb; China has produced a bomb. But we are lagging behind. So, it is our duty to see that these plants function properly.

श्री उपसभापति : आप के पास कोई सवाल नहीं है। आप यूं ही पूछ रहे हैं। बैठिये।

SHRI B. SATYANARAYAN REDDY: Why are you stopping me from asking questions?

MR. DEPUTY CHAIRMAN: No. Don't waste the time. Let nothing of what Mr. Reddy says be recorded. Yes, Mr. Sibtey Razi.

SHRI B. SATYANARAYAN REDDY:**

1P.M.

MR. DEPUTY CHAIRMAN: Mr. Reddy, I would request you not to get up on every topic....(*Interruptions*)

कोई सवाल नहीं। आप ऐसे ही सवाल पछते रहते हैं जिसका कोई ताल्लुक नहीं।

**Not recorded as ordered by the Chair.

श्री बी० सत्यनारायण रेड्डी : आप तो सब्र नहीं रखते।

श्री उपसभापति : मैं यह अनुरोध करूंगा कि जो भी सब्जेक्ट रहता है कोई जरूरी नहीं कि हर बार पूछा जाए। कुछ सवाल हो तो पूछ लिया जाए। अगर आप नहीं पूछते तो आपकी पार्टी का कोई नुकसान नहीं है। **(व्यवधान)**

श्री बी० सत्यनारायण रेड्डी : मैं रिपोर्ट तो नहीं कर रहा हूं।

श्री उपसभापति : ठीक है, आप सवाल पूछ लीजिए।

श्री बी० सत्यनारायण रेड्डी : मैं यह पूछ रहा था कि जो अटौमिक पावर स्टेशंस फंक्शन कर रहे हैं उनके अंदर जो त्रुटि है, कमी है उनको दूर करने में क्यों देरी हो रही है ?

श्री उपसभापति : यह सब पूछ लिया गया।

श्री बी० सत्यनारायण रेड्डी : इन्होंने जवाब दिया कि चार फंक्शन कर रहे हैं, एक में कमी है। मैं यह कह रहा हूं कि यह स्टेटमेंट सही नहीं है। राजस्थान के अंदर दो प्लांट बराबर काम नहीं कर रहे हैं। इसके इलावा मद्रास में जो प्लांट है वह भी ठीक ढंग से काम नहीं कर रहा है। मंत्री महोदय से यह कहना चाहता हूं कि इनकी जो स्टेटमेंट है वह ठीक नहीं है। हालात के लिहाज से उनको जल्द से जल्द काम शुरु करना चाहिये। इसके साथ-साथ कमेटी ने जो रिपोर्ट दी है नागार्जुन सागर के तहत, अटोमिक पावर प्लांट सेन्टर द्वारा खोले जाने के बारे में, इस बारे में अभी तक कोई डिसिजन नहीं लिया गया है। वहां कमेटी ने कई दिन पहले यह अपना फैसला दे दिया था लेकिन अभी तक कुछ नहीं हुआ है। मैं यही पूछना चाहता हूं।

श्री सैय्यद सिब्ते रजी (उत्तर प्रदेश) : मान्यवर काफी देर से इस बात पर चर्चा चल रही है कि हमें इस क्षेत्र में कहीं तक प्रगति मिली है। इस संबंध में मंत्री महोदय ने जो बयान दिया है उससे पता चलता है कि उतनी असंतोषजनक स्थिति नहीं है जितनी हमारे विरोधी पक्ष के भाई देश के सामने रखने का प्रयास कर रहे हैं। लगभग 10 वर्ष पूर्व सन् 1974 में पहली बार भारत ने शांतिमय ढंग से अणु का तुजुर्बा किया था और दुनिया के उन चंद देशों के बीच में जाकर खड़ा हुआ था जिन्होंने ताप अणु का शांति के लिए प्रयोग करने का फैसला किया था। भारत की उस नीति में और कई देशों की विदेशी नीति में बड़ा अन्तर था। हमने अपने शांतिमय ढंग से काम कर के देश की प्रगति और उन्नति के संबंध में, उस विज्ञान का हम किस तरह प्रयोग कर सकते हैं उसके प्रयास के लिए पोखरन का विस्फोट किया। भारत ने 10 वर्ष के अंदर इस क्षेत्र में बहुत सारी उपलब्धियाँ हासिल की हैं। उन तमाम ताकतों के बावजूद जो बहुत सी अन्तर्राष्ट्रीय शक्तियां इस क्षेत्र में काफी आगे बढ़ी हुई हैं उन्होंने हम पर जो प्रतिबन्ध लगाया और जिस तरह के वायदे उन्होंने हमसे किये और जब उन्होंने देखा कि हम इस क्षेत्र में काफी प्रगति कर सकते हैं तो मान्यवर, आपको याद होगा कि तारापुर के मामले में भी संयुक्त राष्ट्र अमेरिका ने किस तरह से ईंधन देने के बारे में और पुर्जे देने के बारे में इंकार किया और आनाकानी की। मैं मंत्री महोदय को बधाई देना चाहता हूं कि भारत सरकार ने उन तमाम शक्तिशाली देशों की चुनौतियों के बाद उन

तमाम पुर्जों और ईंधन का प्रयोग जो इस प्रकार के अटोमिक भट्टियों या अटोमिक बिजली पावर स्टेशन लगाने के लिए किया जाता है, उनका विकल्प ढूंढ लिया है। अब यह कहा जाए कि तुरन्त किसी चीज का फायदा हम को नजर आने लगे, यह बहुत मुश्किल है। देश की प्रगति में इतिहास कभी-कभी इस तरह से करवट लेता है कि आज के लगाये हुए निशान, उनका प्रयोग और उनका लाभ कभी-कभी शताब्दियों के बाद मुल्क को मिलता है। मैं इस संबंध में कुछ सवालात करना चाहूंगा कि यह जो बिजलीघर ताप का बनाये जाने के संबंध में चार का तसकरा आया है, मैं यह मालूम करना चाहूंगा मंत्री महोदय से कि देश में इस तरह के ताप बिजली घर बनाने की योजना कहां-कहां है? और इसके साथ-साथ में यह भी जानना चाहता हूं कि परमाणु बिजली घरों में उपयोग में आने वाले ईंधन के बारे में जो परिष्कृत यूरेनियम है, क्या वह हमारे देश में तैयार हो गया है और उसका प्रयोग किन-किन बिजली घरों में, एटोमिक स्टेशनों में, शुरु हो गया है और उसका क्या प्रभाव रहा है, क्या नतीजा रहा है? राजस्थान का दूसरा यूनिट जो बहुत अच्छी तरह से काम कर रहा है और पिछले 1983-84 साल में जिसके बारे में यह कहा जाता है कि वह कुछ दिनों तक बंद रहा तो उसका वजह से बिजली के उत्पादन में कितना हानि हुई और उसके ठीक होने के बाद आप उस स्थिति को किस प्रकार से रिकूप कर लेंगे? यूरेनियम और थोरोनियम खनिज के बारे में हमारी सरकार ने कहां-कहां किन भंडारों का पता लगाया है और उसके शोध के लिए हमारी सरकार क्या कर रही है और इस बारे में शोध में लगे हुए लोगों की क्या कोई हिम्मत-अफजाई की गई है।? मैं यह भी जानना चाहता हूं कि इन खनिज पदार्थों के भंडार हमारे देश में कहां-कहां मिले हैं? हमारे देश में जो ईंधन तैयार हो रहा है, ताप के जरिए जो ईंधन तैयार हो रहा है और दुनिया के देशों की जो स्थिति है उसके लिहाज से क्या हम दूसरे देशों से भी इस संबंध में मदद ले रहे हैं और क्या कोई ऐसा दल, जो हमारे बिजलीघरों में खराबी उत्पन्न हो जाता है, भविष्य में इस प्रकार की शिकायत न हो और न ही कोई दुर्घटना हो, उस सिलसिले में सोवियत यूनियन गया है या जाने वाला है जो वहां जाकर यह देखे कि किस प्रकार से वहां पर काम हो रहा है और उनकी एक्सपर्टीज और तजर्बे देखकर भविष्य में हमारे देश में इस प्रकार की कोई परेशानी न हो या इस समय जो एक दो जगहों पर कमी है उसको दूर करने के उपाय बता सके और वहां के तजर्बे को सामने रखकर हमें यह बताये कि हम किस प्रकार से उस तजर्बे का लाभ उठा सकते हैं? ये ही मेरे कुछ सवाल हैं जिनके संबंध में मैं मंत्री महोदय का जवाब जानना चाहता हूं।

MR. DEPUTY CHAIRMAN: The Minister will reply after lunch. Now, we take up Bill for Introduction.

THE STANDARDS OF WEIGHTS AND MEASURES (ENFORCEMENT) BILL, 1984

THE DEPUTY MINISTER IN THE DEPARTMENT OF ELECTRONICS AND IN THE MINISTRY OF FOOD AND CIVIL SUPPLIES (SHRI M. S. SANJEEVI RAO): Sir, I beg to move for leave to introduce a Bill to provide for the enforcement of the standards of weights and measures established by or under the Standards of Weights and Measures Act, 1976, and for matters connected therewith or incidental thereto.

The question was put and the motion was adopted.